



TFT Shield Helper

Preface

I'm currently working on my Cyberdeck again. I'm now at [version number 5](#). In the sixth version I want to replace the LCD display with a [MCU Friend 2.8" TFT Shield](#). The [old LCD](#) looks good, but I want a better quality of the display. During testing I noticed two things. The TFT Shield is very difficult to mount on a breadboard. And secondly, breadboards are not quite as well constructed as I always thought. In addition I will write however another time what.

Anyway, I've looked on the Internet to see how other people solve the problem. Not at all because in many tutorials the shield is simply clamped on the Arduino Uno and this avoids the real problem. Now I only have breadboards and an [Atmega 328P](#) and can only work with them. I thought for a few minutes about what I wanted to have and came to the following conclusion. I want a module, which I can use several times, because the previous Cyberdeck was also rather divided into individual modules. This allows me to test, swap or rebuild faster without having to strain myself. Furthermore I wanted something where I can see immediately how the pinouts of the TFT shield are occupied.

But it's also about showing that you can build a helper very quickly without using cost-intensive material. First and foremost the goal should always be kept in mind. [Solve a problem very quickly](#). You can *design* it nicely in later versions, if that was still needed at all. Often you may notice that you have thought in the wrong direction and yet have to go a different way. Then it is better if you have invested only little time material and money. For example, if you want to use another TFT shield later, you can still put it on the helper and simply stick white paper over the pinouts and re-label them. You save a lot of time for the *really important* problems. Always keep that in mind when working on projects.

Materials

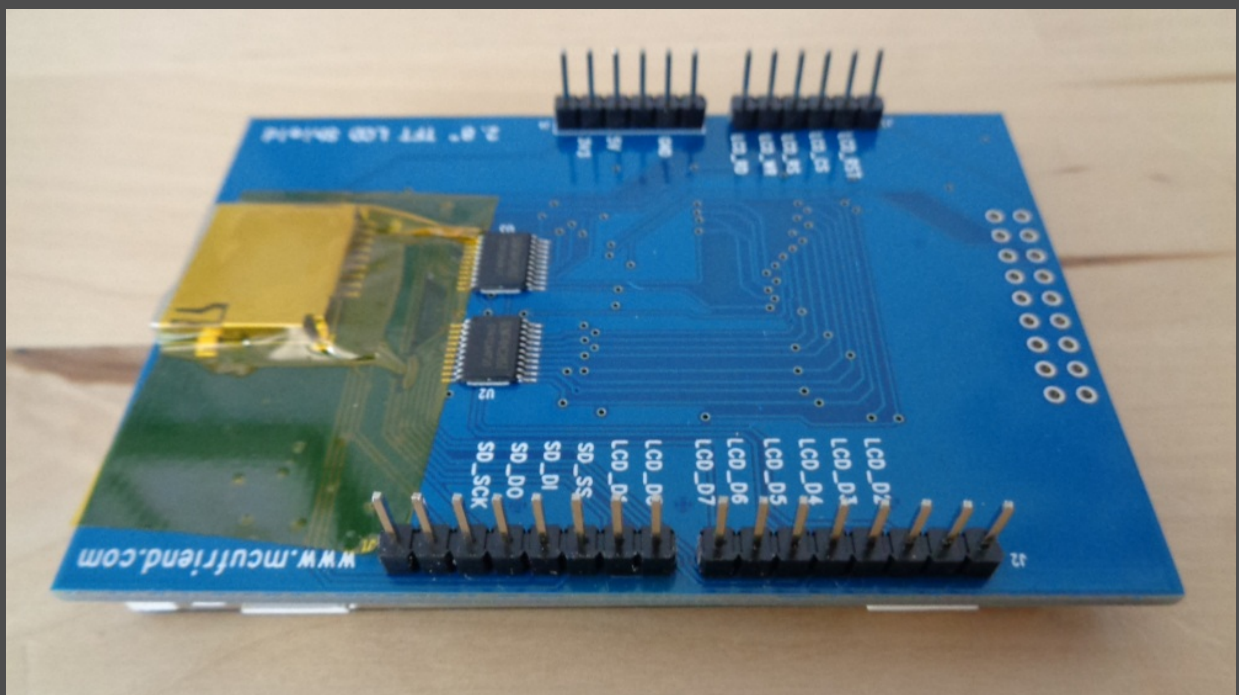


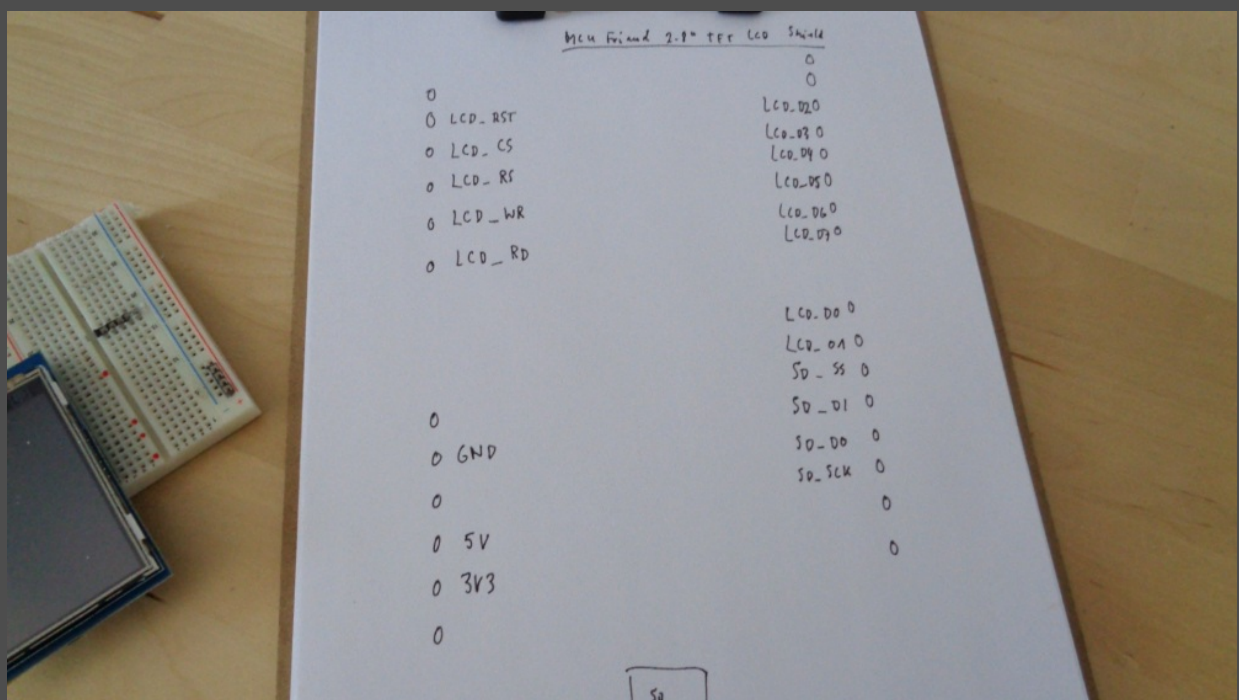
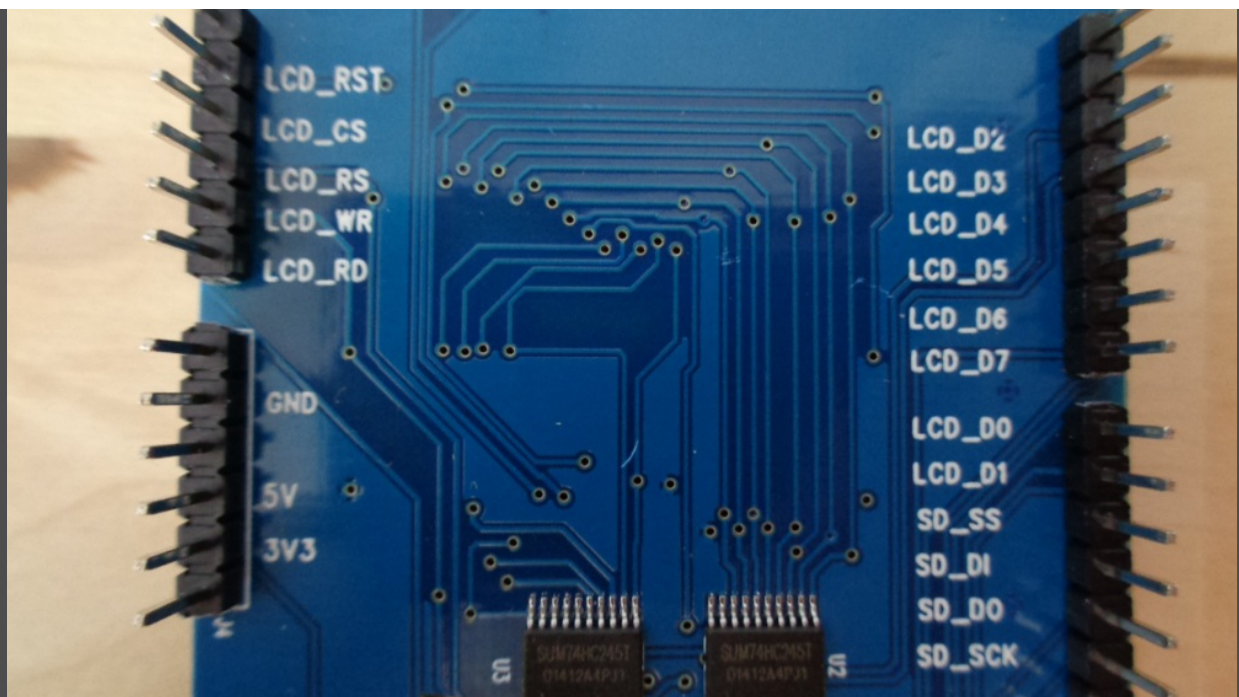
Something you need to pray for is the TFT shield. Everything else you should have in your toolbox. Instead of wood glue you can also use double-sided tape.

- MCU Friend 2.8" TFT Shield
- Breadboard
- Metal Saw
- Cardboard
- Black Ink Pen
- Red Acrylic Marker
- Wood Glue
- Old Brush
- Scissors
- Metre Stick
- Parallel vice or Clamps

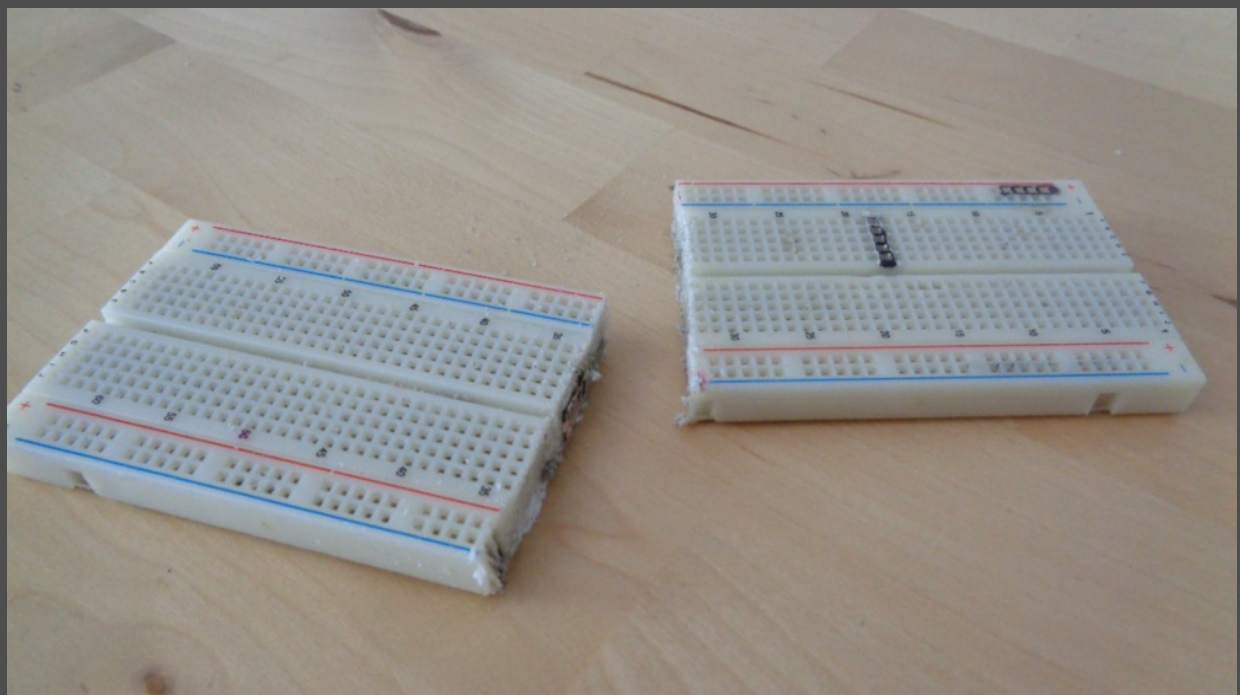
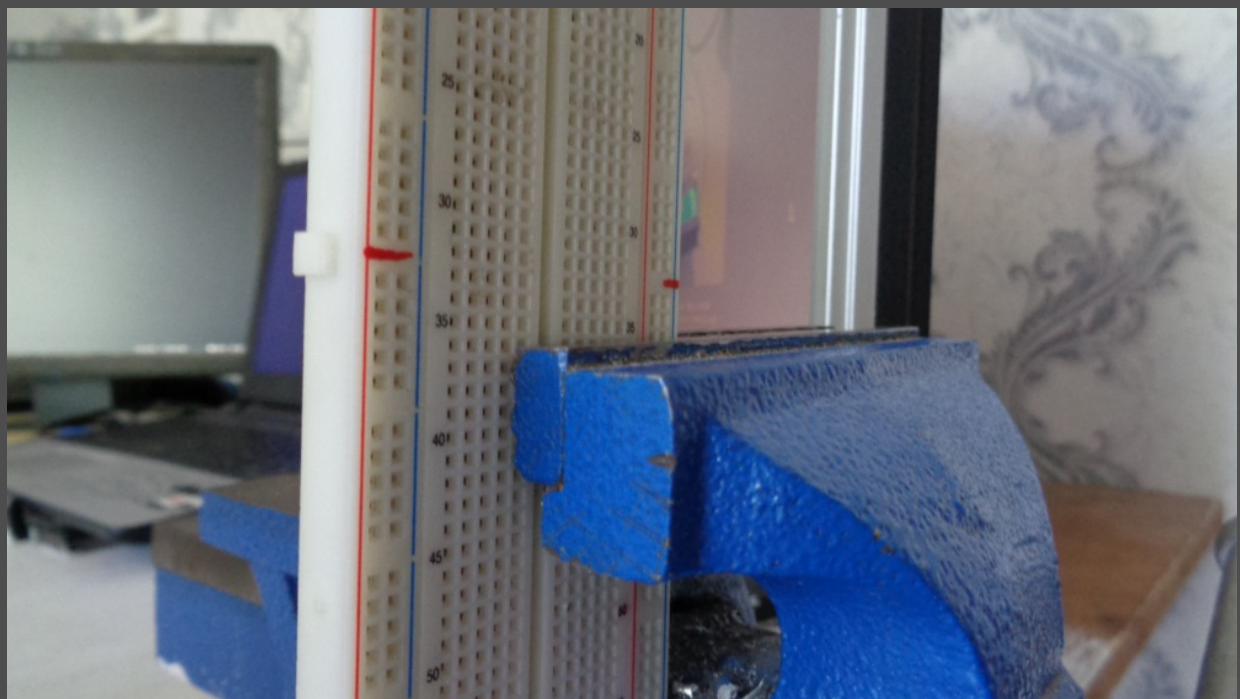
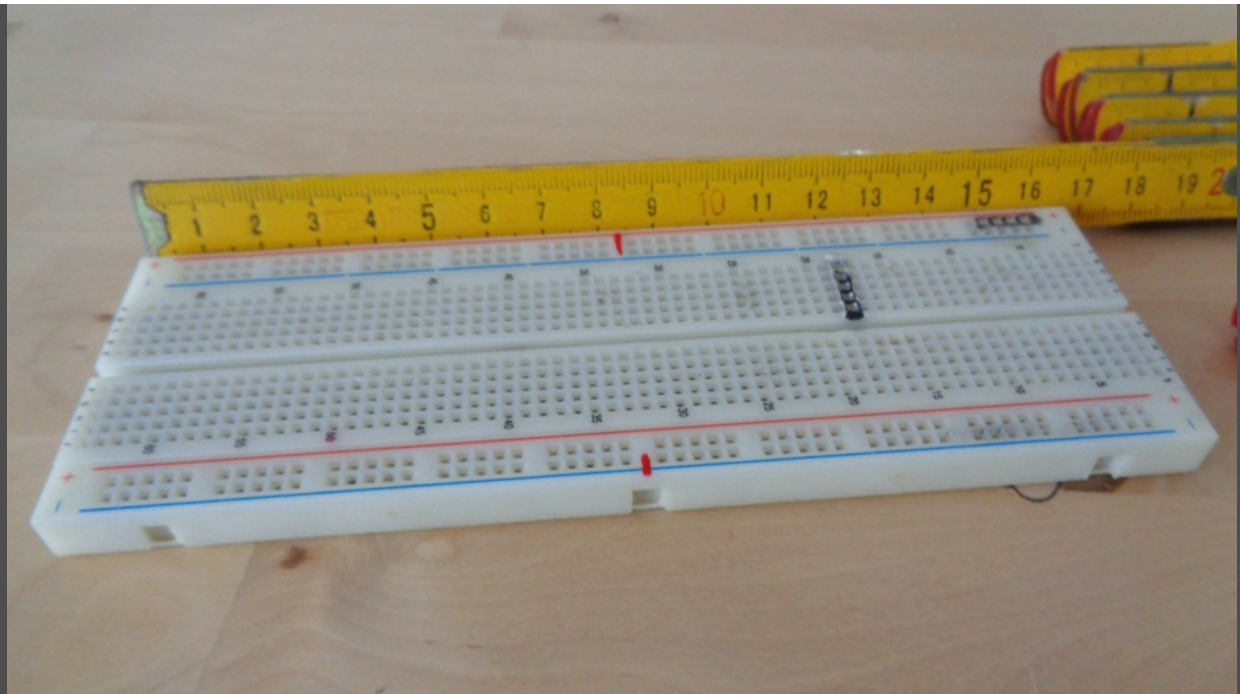
Realisation

Before we even start the project, we collect data. That's the way to do it. Take a close look at the TFT shield and what the pinouts say. Read the documentation on the internet or the manuals. Every piece of information is important. Since I need the identifiers for the pinouts, I write them on an extra sheet of paper. These are then later written on the cardboard where we can read them more quickly. So we can e.g. change cables faster.

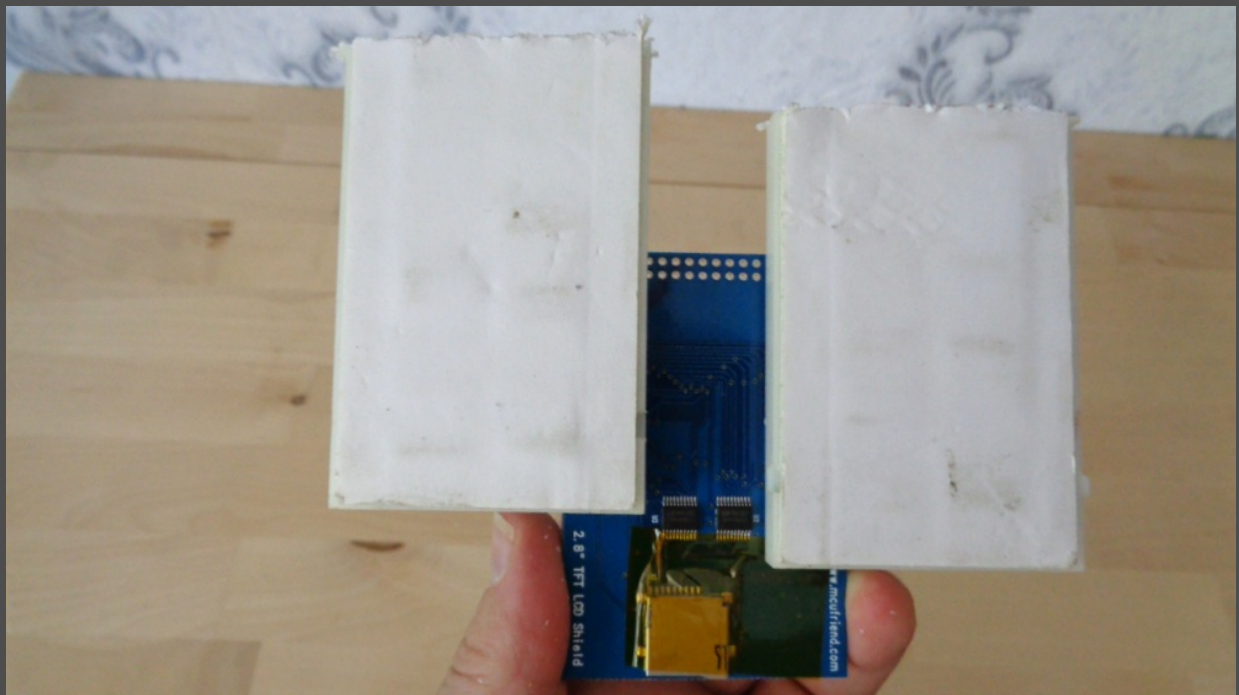




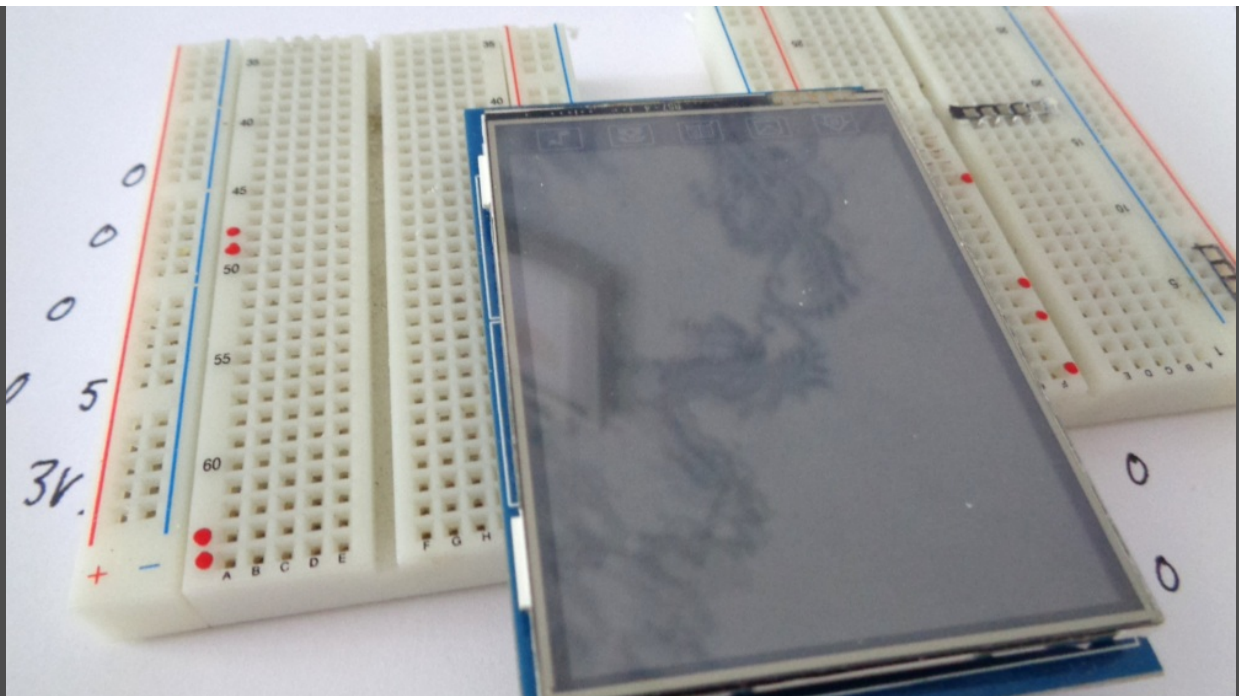
In the next step we saw the breadboard. At that time I ordered 12 pieces in China and paid only 2-3€ for them. So you should carefully consider if you want to rebuild it and how important it is for your project, because what was once sawed to pieces is very difficult to repair. We also measure the middle very roughly with a metre stick, mark it with an acrylic marker and then clamp the breadboard into our parallel vice. We saw the material with a metal saw, because there are metal parts inside the breadboard. I have to admit, that I didn't even try to saw it and it looks really messy. But that doesn't matter, because we just want a fast and functional prototype.



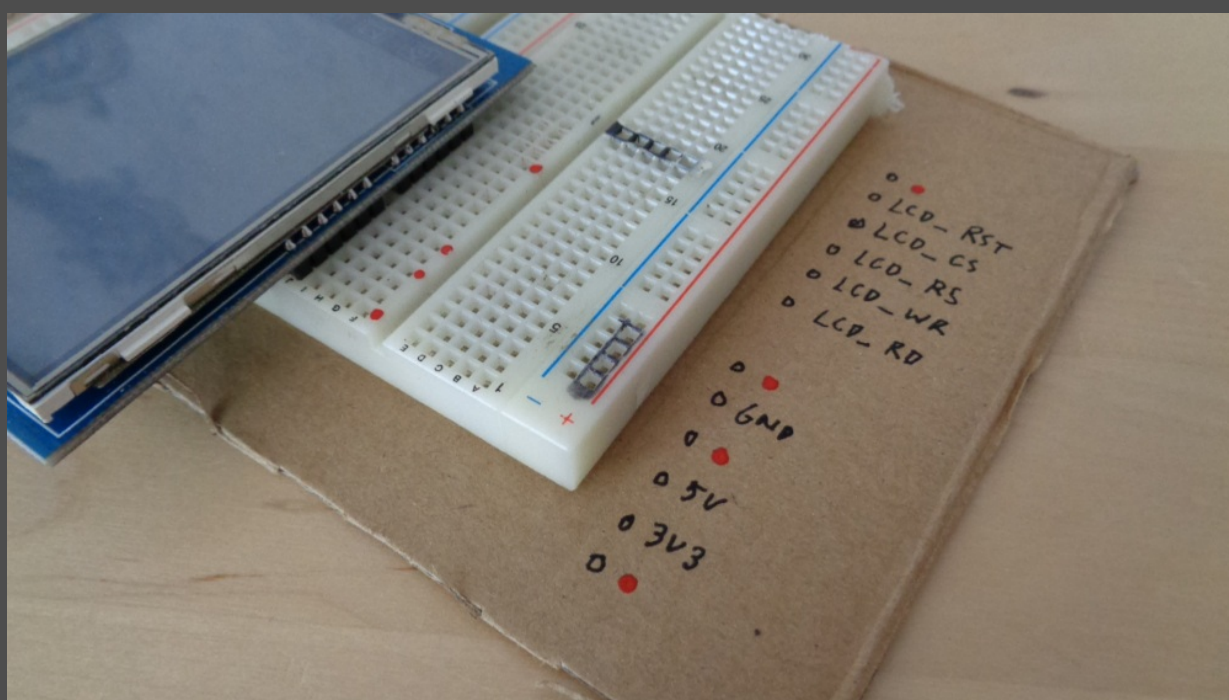
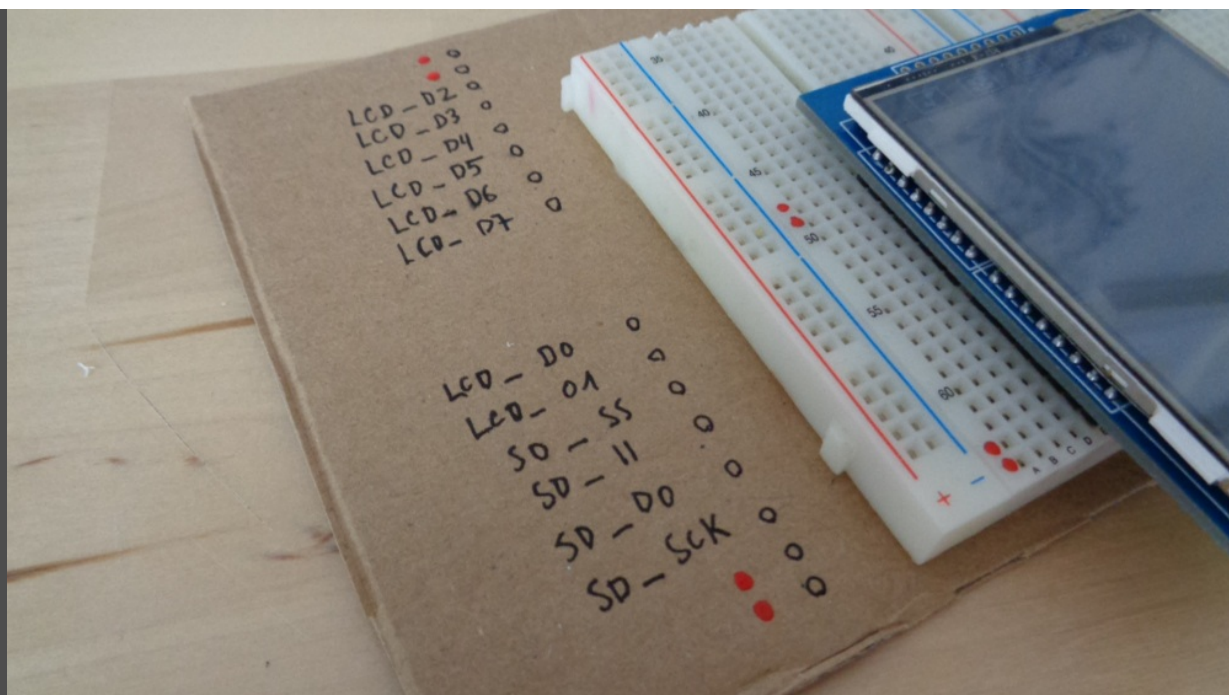
We insert the TFT shield into the two breadboards and it works. We now have much more space available. At this point I noticed that the two breadboards are wobbling and I didn't want the tiller to break off the shield. Also, I couldn't read the inscription on the shield (as I had thought), but I didn't want to write it on the breadboards. When using, make sure that you get a good SD card slot, because you don't want to have to fiddle around with the shield.



At the first try I had used the double-sided tape which was already attached to the underside of the breadboards. Unfortunately I had made a mistake with the inscription and had to tear off the first cardboard again. You must think mirror-inverted. As an aid I made myself with a red acrylic marker points to the places where the tiller of the TFT shield are not occupied. This is a very good pattern for orientation. This is also the reason why I used wood glue. my double-sided tape was empty.



As cardboard I simply took a piece of cardboard. At first I had thought of wood, but then it seemed too heavy. The cardboard is a little thicker and therefore stable enough to withstand a few attempts without breaking. I have written down the inscriptions on the right and left side of the construction with a black fineliner. I took the red dots from the breadboard. With that the project is finished.



Conclusion

There are a lot of tutorials on the internet from people who only do it once and then finish their project. As you can see in my articles, certain materials, techniques or modules appear again and again. So I work ahead to save time later. As a programmer I do this incredibly often, because if a task appears often and it is always the same task, I re-program it and make my life easier. This can also be applied to electrical engineering. When I use the TFT shield helper I can easily change cables, read the data from the tiller or rebuild the module for another project. That's all very simple. So projects are much more fun if you get rid of the unnecessary work. People who perform superfluous tasks are stupid, and there is no reason to apologize for laziness. Be lazy, work on cool things.